RATINGS OF ROLL FILM TANKS, GRAPEFRUIT JUICE, RCA'S "PERSONAL" RADIO

Consumers Union REPORTS

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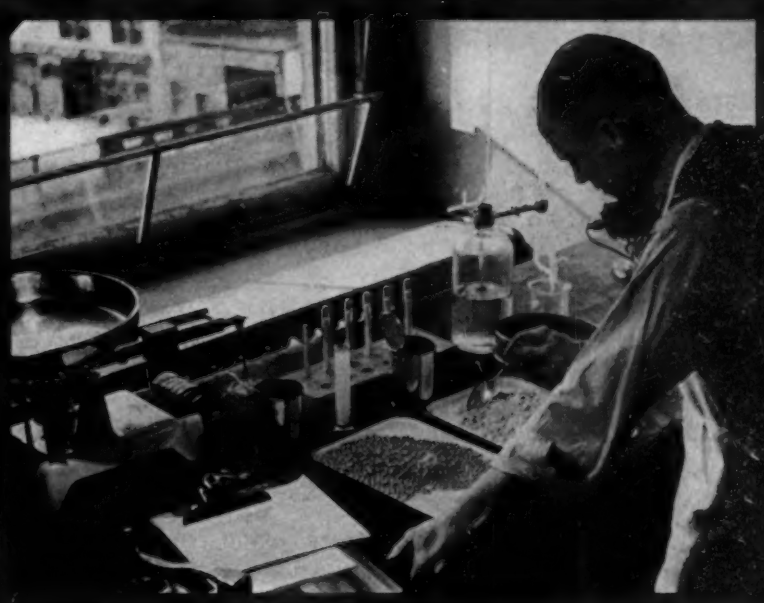

Consumer Victory: U. S. Gov't starts experiment in grade labeling

Taste testers rate leading colas (Coca, Pepsi, Lime, Double and R-C)

IN THIS ISSUE

The purposes of Consumers Union, as stated in its charter, are "to obtain and provide for consumers information and counsel on consumer goods and services . . . to give information and assistance on all matters relating to the expenditure of earnings and the family income . . . to initiate and to cooperate with individual and group efforts seeking to create and maintain decent living standards for consumers."

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One Horse, One Rabbit

IT SEEMS likely at this writing that one of the gleaming catch-phrases of the current national excitement is going to be "equality of sacrifice."

The newspapers and the radio speakers like it fine. It rolls off the tongue impressively, looks unimpeachable in print.

Somehow it makes us think of the Frenchman who discovered that a stew advertised as "half rabbit, half horse meat" was made out of one horse and one rabbit.

In the early days of the war in Europe consumers dropped something like $50,000,000 in higher sugar prices largely as a result of some fancy work by sugar speculators. "Defense taxes" on consumer goods and services came through like mosquitoes—you could feel their sting almost before you heard them coming. By last month the consumer's dollar, thanks to the defense taxes, higher prices on numerous commodities, and despite a slight increase in payrolls, was buying substantially less than it was before war broke.

This has been the consumer's sacrifice to date. For the moment, let's don't argue whether the sacrifices are necessary or justified. But does equality of sacrifice mean that consumers contribute the horse?

The question is beguiling. For while the standard of living has been drooping for most of the people, some of the people have been doing swell.

The first 100 companies to report for the first half of 1940 showed profits up 60% over a year ago. Republic Steel came in with a nifty 495% increase; Remington Arms had cause for modest pride in a 746% jump; Atlantic Refining, relatively backward, still managed to improve by 289%.

It would seem that some businesses are contributing the rabbit to the sacrificial stew. And even so certain busy quarters seem to feel that perhaps horse meat is more savory by itself and the stew would be better without *any* rabbit.

Excess-profits legislations has been kicking around since last Fall. It will probably pass—sooner or later and in one form or another. And with one exemption and another, it is not likely to bear down too heavily on anyone. The National Ass'n of Manufacturers recently announced that it would give its approval to an excess-profits tax *if* it were to apply only during 1940 and 1941. And even so the U. S. Chamber of Commerce has been arguing that wartime profits should *not be taxed* because wartime expansion is such a risky business.

Yet government sentiment at present is all for taking the risk (i.e., sacrifice) out of wartime expansion. If projected legislation goes through, plants will be built on government loans through the RFC. Further, as *Business Week* explains:

> . . . the [probable] five-year amortization allowance permits a company to pay back a fifth of the loan annually *and to include such payment as cost on the government contract.* [Italics ours.]

Not even a very small rabbit there.

Meantime consumers have been contributing virtually all of the extraordinary sums raised to finance armaments.

It makes a strange pattern. For the defense taxes are taxes on consumption pure and simple and their inevitable effect is to lower consumption, blocking or retarding fuller use of our unemployed manpower and resources. Even business commentators have touched on the inadvisability of drawing on such revenue. More to the point, we have yet to hear any real justification for such taxes at all, aside from the ease of collecting them.

It is a fact that our country has 11,000,000 unemployed, huge stocks of surplus goods, unmatched productive capacity. In the face of these resources, it is difficult to see the purpose served by asking consumers to lower their living standards—especially when those who profit from a wartime economy (60%—746%—289%—495%) are not paying their full share of the cost of it.

TECHNICAL SECTION
OF CONSUMERS UNION REPORTS

Ratings of products represent the best judgment of staff technicians or of consultants—more than 200 specialists selected for competence and freedom from commercial bias—in university, governmental and private laboratories. Samples for test are in practically all cases obtained on the open market by CU's shoppers. Ratings are based on laboratory tests, carefully controlled use tests, the opinion of qualified authorities, the experience of a large number of persons, or on a combination of these factors. Most ratings of necessity reflect opinion as well as scientific data. For even with rigorous tests, interpretation of findings is often a matter on which expert opinion differs. It is Consumers Union's pledge that such opinions as enter into its evaluations shall be as competent, honest, and free from bias as it is possible to make them.

● *"Best Buys" should give greater return per dollar although some products rated "Also Acceptable" may be of higher quality. Except where otherwise noted, a product rated "Not Acceptable" is judged to be of inferior quality or is considered to be potentially harmful.*

RCA's Personal

It's little . . . it's light . . . and you'll love it, says RCA. Its performance is poor and it's expensive to operate, says CU. You'll have to judge for yourself whether you'll love it (maybe you will)

WHETHER RCA Victor's new and highly promoted "Personal" radio set falls into the category of a useful instrument or a gadget depends considerably on the extent to which portability in a radio set appeals to you. The "Personal" is just about the most portable radio set you ever saw. It weighs only 4¼ pounds, is not much bigger than lots of cameras, has hand and shoulder straps for carrying. It is so portable, in fact, that unless the "public nuisance" laws are quickly extended to cover it, it may very soon become just that.

If you want that sort of thing, the "Personal" is the sort of thing for you. If you're not concerned about tone quality and sensitivity, you may be well satisfied with it, despite the fact that of all the portable sets CU has tested, the "Personal" is among the poorest in performance and the most expensive to operate.

Tone quality, volume and sensitivity have all necessarily been sacrificed in the interest of compactness. The tiny speaker cannot put out satisfactory volume without distortion. The baffle area is too small to improve the tinny tone appreciably. Even so—since quality in these respects is generally low among the portables (see June *Reports*)—the tone quality is not much worse than that of small standard portables, and sensitivity is rather better in the "Personal" than in some of the standard models. Satisfactory daytime range is about 50 miles.

In the table of straight quality ratings carried in the June *Reports* along with CU's last report on portable sets, the "Personal" would rank twelfth, between *Lafayette* D-93 and *Sears' Silvertone* Cat No.—6274. It came on the market too recently to be tested along with the others.

The "Personal" operates on batteries only, and its cost of operation is four to five times that of the average $15 battery portable—any one of which (among those tested by CU) gives better performance than this one. The specially constructed small "B" battery costs $2.50; its maximum operating life is 60 to 75 hours. The "A" battery is a standard flashlight cell costing 5¢ to 10¢ and lasting at best four or five hours, so that 12 to 15 "A" batteries must be bought for each "B" battery. The battery life estimates are based on no more than two hours' use a day, and even on these optimistic estimates the "Personal" will cost 4¢ to 6¢ an hour to run.

Another and more conventional *RCA* portable newly introduced, the BP-15, takes third place following *Ward's Airline* Cat. No.—2668 in the straight quality ratings in the June issue. The same chassis can be obtained in various models. Ratings of several models of this portable are given here, along with the rating of the "Personal."

PERSONAL GIRL
It depends on what you want

$30 Group

Best Buy

RCA Victor Model 15BP (RCA Mfg. Co., Camden, N. J.). $29.95. Weight, 14 lbs. Open front. 5 tubes. Ac-dc and battery operation. 540 to 1,700 kilocycles. Tone, volume and sensitivity very good. A-c operation slightly better than with batteries. No provision for external aerial. Appearance excellent, but wood cabinet might easily be marred. (Zippered carrying cover for protection, $2.50 extra.) No dial light. Good ventilation.

$25 Group

Best Buy

RCA Victor Models 15BP-2, 15BP-3, 15BP-4 and 15BP-5. $24.95. Same chassis as 15BP, with luggage-type carriers.

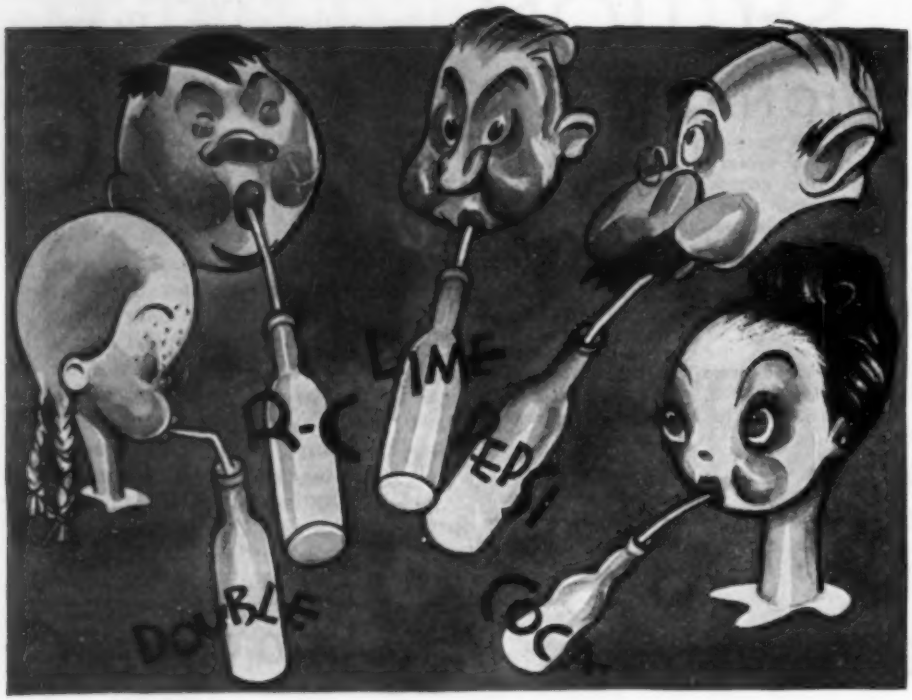
$20 Group

Best Buy

RCA Victor Model 15BP-1. $19.95. Same chassis as 15BP, in plastic case.

Also Acceptable

RCA Victor "Personal" Model BP-10. $20. Weight, 4¼ lbs. Closed front which operates on and off switch. 4 tubes. 540 to 1,700 kilocycles. Equipped with hand and shoulder straps. No provision for outside aerial. Performance poor. Operating cost high. Appearance and construction excellent.



The Battle of the Colas

. . . is getting hotter and heavier by the season. But only the advertisers can tell most brands apart. Consumers Union conducts taste tests on five leading brands, reports its findings here

"My friend! We took our cola test and Royal Crown tops all the rest!"

THUS an enthusiastic high school couple inform a classmate in a magazine advertisement for *Royal Crown Cola*. The advertisement goes on to claim that in "'blind' impartial Certified Taste Tests" against the field of cola drinks, *Royal Crown Cola* led three to one in "two fraternities on a big Chicago campus," two to one in a "newspaper cafeteria in Cleveland," over three to one in Nashville.

From its own experience with taste and other tests, CU has become skeptical of such claims as these. Partly as a check on *Royal Crown Cola's* advertising, but mainly to find out if there is really any appreciable difference in taste between *Coca-Cola* and the whole school of rival cola drinks which has sprung up in recent years, CU has now conducted its own "cola tests."

The story of *Coca-Cola* itself was told under the title of "The Great What-is-it" in the August 1938 *Reports*. The title came from the fact that *Coca-Cola* has always refused to state its ingredients. They are known, however. The main ingredients of *Coca-Cola* are extracts of the coca leaf (from which cocaine has previously been removed[1]) and the cola nut, sugar, phosphoric acid, carbonated water and caramel color. And most of the competing cola drinks are similar in composition.

Concocted by an Atlanta pharmacist in 1886, *Coca-Cola* soon, and for many years, held undisputed leadership in the soft-drink field. But the era of absolute dominance ended about 10 years ago. Since 1930 a number of powerful competitors have been threatening *Coca-Cola's* supremacy.

For its tests CU chose, in addition to *Coca-Cola*, four leading contenders: *Royal Crown Cola, Pepsi-Cola, Double Cola, Lime Cola.*

Before the actual taste tests, carbonation and sugar content of each brand were checked to see if there were any differences in these respects which might account for flavor choices. The carbonation ran pretty much the same for all brands. In the sugar tests one important difference was found: *Pepsi-Cola* contained about one-third more sugar per fluid ounce than *Coca-Cola. Lime Cola* and *Double Cola* contained about the same amount as *Coca-Cola*, and *Royal Crown Cola* slightly more.

Each six-ounce bottle of *Coca-Cola* contains about four level teaspoonfuls—0.6 ounces—of sugar (the Coca-Cola Co., incidentally, is the world's biggest user of sugar—200,000,000 pounds a year). Most other colas, since they come in 12-ounce bottles, contain about eight teaspoonfuls of sugar. *Pepsi-Cola* contains about 10 level teaspoonfuls per bottle, enough so that it may be especially tasteful or distasteful to those who like or dislike sweetness.

IN THE flavor tests, the colas were chilled, and samples identified by code letter only were served two at a time to each of 29 tasters. Each was requested to state which sample he liked better, and to rate both as "good," "fair," or "poor." Each pair of samples (with changed code numbers) was served twice to each taster and the results were compiled under the following classifications:

(1) Preferred Brand "A" both times
(2) Preferred Brand "B" both times
(3) "No choice" one or both times
(4) Preferred "A" one time, "B" the other

In the accompanying table the number of probable guesses (figured mathematically as double the number of reversals of choice) is lumped with the "No choices" under the heading, "No Choice and Guesses." The table shows that 46% of those tasting *Coca-Cola* and *Pepsi-Cola* really had no preference between them, while in the case of *Coca-Cola* vs. *Royal Crown Cola* the proportion of "No Choice and Guesses" reached 100%—that is, practically no one could detect any significant difference between these two drinks.

CU's controlled tests, therefore, failed markedly to show the flavor preference described in *Royal Crown* advertisements.

In the case of *Pepsi-Cola* and *Coca-Cola*, 54% of those tasting the two beverages did have a definite preference—34% for *Coca-Cola* and 20% for *Pepsi-Cola*. The main factor here was undoubtedly the large difference in sugar content of the two beverages. In comparisons of *Coca-Cola* with *Lime, Double*, and *Royal Crown Cola*, the percentage of definite choices was so small that CU

[1] There is no evidence to support the occasional rumors that not all of the cocaine has been extracted from the coca leaves used by *Coca-Cola.*

can only conclude there are few people to whom it makes any real difference, from a flavor standpoint, which of these brands they drink.

There is, nevertheless, one important difference between *Coca-Cola* and practically all of the other colas on the market: if you buy *Coca-Cola* you get only half as much for your nickel. *Coca-Cola* comes in a six-ounce bottle, the others in 12-ounce bottles.

FOR the interesting fact that *Coca-Cola* can continue to charge twice as much as other brands and stay in business, there seems to be a twofold explanation. For one thing, there is the deceptiveness of *Coca-Cola's* well-known bottle. By using a "wasp-waist" and fancy paneling, the Coca-Cola Co. contrives to make six ounces look like much more than that.

More important is the power of Coca-Cola's prodigious advertising, which has led people by the millions to form the habit of asking for *Coca-Cola* without even thinking of any competing beverage.

It has been estimated that the Coca-Cola Co. and its affiliates spend enough on advertising every year to buy close to 200 million "cokes" at 5¢ each. The hundreds of thousands of signs and billboards in dozens of countries make the Coca-Cola Co. one of the world's largest consumers of paint. Other promotion includes a 15-minute radio program five times a week over 178 stations.

Here, surely, is a gleaming star of advertising enterprise and a shining proof of the business awards thereof. As for the benefits which advertising is presupposed by its spokesmen to confer on consumers, the case of *Coca-Cola* seems to provide a less noteworthy example of those.

In addition to being sold in bottles, *Coca-Cola*, and sometimes other colas, are sold at fountains. The fountain buys the flavored syrup separately, and what you get becomes a little less certain than what you get in the bottle, although strong pressure brought by the Coca-Cola Co. on the fountain men to keep the drink uniform seems to work well.

The product in bottles, for that matter, is not usually prepared entirely by the parent company; instead, the latter sends the flavored syrup to licensed companies in various localities who mix it with their own carbonated water and bottle it. Since the bottling companies use automatic machinery, and are subject to strict supervision by the Coca-Cola Co., the product can be made very uniform.

In addition to the five colas included in the present test, there are dozens of others, most of them with much smaller distribution. To mention only a few: *Apola-Cola, Buxa-Cola, Cleo Cola, Dixi-Cola, Drycola, Lola Cola, Malti-Cola, Nichol Cola, Red Rock Cola, Spur, Star Cola.* The Coca-Cola Co. has done its best to make the way of these transgressors hard. Since 1907 it has secured some 80 court decisions against "cola" and "coca" beverages for usurping its trademark. But it seems that for every one smashed down, a dozen new ones have sprung up.

The most dangerous rival now is *Pepsi-Cola*, which was born down South at nearly the same time as *Coca-Cola*, but long remained in obscurity. Some nine years ago President Charles G. Guth of Loft, Inc., large New York candy store chain, became displeased because *Coca-Cola* would not sell him syrup direct instead of through jobbers. He forthwith bought up the trademark for *Pepsi-Cola* and thereafter sold only it in all Loft stores. Backed by a powerful promotion campaign and offering twice as much for a nickel, *Pepsi-Cola* forged ahead.

In 1939 *Pepsi-Cola* had a net income of over five million dollars, still far below *Coca-Cola's* 29 million, but up 73% over 1938, while *Coca-Cola* had gained only 14%. Currently *Pepsi-Cola* is putting over $1,000,000 into an advertising campaign ($300,000 for skywriting alone).

The legal battle between *Coca-Cola* and *Pepsi-Cola* has been particularly heated. In 1938 the Exchequeur Court of Canada upheld *Coca-Cola* in a trademark infringement action against *Pepsi-Cola*. The Dominion Supreme Court reversed the decision and *Coca-Cola* is now appealing to the British Empire's final authority—the Privy Council in London. In the meantime *Pepsi-Cola* filed suit in its "home town," Queens County, New York, against *Coca-Cola* for alleged interference with sales. A countersuit was promptly started by *Coca-Cola*, and the affair will probably end up some day in the U. S. Supreme Court.

IN CU's tests, which were concerned with flavor, no attempt was made to determine the caffeine content of the various colas. In reply to inquiries, the companies have claimed that the amount of caffeine contained in *12* fluid ounces of their beverages is as follows: *Coca-Cola*, 1.2 grains; *Royal Crown Cola*, maximum of 0.5 grains; *Lime Cola*, 0.7 grains. The Pepsi-Cola Co. claims that the caffeine content of their beverage, along with its formula is "secret." An inquiry to the makers of *Double Cola* was not answered. The average cup of coffee contains about two grains of caffeine.

CU's main conclusions are as follows: Most people cannot detect any important difference in flavor between *Coca-Cola* and the other cola beverages tested, except *Pepsi-Cola*. They can, therefore, save money by buying the colas which come in 12-ounce bottles for 5¢. Those who like a sweeter beverage may choose *Pepsi-Cola*. Cola beverages should not be given to children and should be avoided by adults who get ill effects from coffee.

How Coca-Cola Compared in Flavor Tests with Four other Colas

	PEPSI-COLA (%)	LIME COLA (%)	DOUBLE COLA (%)	ROYAL CROWN COLA (%)
Consistent Choices for *Coca-Cola*....	34	20	6	0
Consistent Choices for Compared Brand.....	20	0	2	0
No Choice and Guesses.....	46	80	92	100

Carbonation and Sugar Content

BRAND NAME AND PARENT COMPANY	CARBONATION (VOLUMES OF CARBON DIOXIDE)	SUGAR (%)
Coca-Cola (Coca-Cola Co., Atlanta, Ga.).....	3.1	10
Pepsi-Cola (Pepsi-Cola Co., Long Island City, N. Y.).	3.1	13.5
Lime Cola (Lime Cola Co., Montgomery, Ala.).....	3.6	10
Royal Crown Cola (Nehi, Inc., Columbus, Ga.).....	3.5	11.5
Double Cola (Seminole Flavor Co., Chattanooga, Tenn.).....	3.5	10.5

Canned Grapefruit Juice—Price & Quality Ratings

IF YOU'D like a quick little insight into some of the difficulties facing consumers you might have a try at buying Grade A grapefruit juice. You will rarely find one actually labeled by grade (though many labels say "Fancy"). What's more, the odds are almost six to one against your finding a brand that satisfies Grade A requirements, no matter how it's labeled. What's still more, the few brands of Grade A quality that you may expect to find will cost less than many lower-quality brands.

Such, at least, is the lay of the land as determined by CU's survey of 54 brands sold in sufficient quantity to be fairly representative of the grapefruit juice market. Tests on these brands took in a total of 170 separate cans, or two to six samples of each brand; they were made for CU by government graders of the U. S. Dep't of Agriculture.

Factors considered by the graders in establishing their ratings were primarily three: color, flavor, and absence of such defects as large quantities of pulp (over 10% means a C grading), or pulp which has coagulated.

Citric acid—which gives grapefruit juice its tartness—provides a good index of adulteration, and amounts present in the various brands were therefore checked. Unadulterated juice suitable for canning contains between 0.8% and 2%; Grade A juice contains between 1% and 1.7%. More acid means unripe fruit; less means adulteration with water. All the brands tested fell within the allowed range.

There is no Grade B for grapefruit juice, only Grades A and C. No substandard brands were found. Tests were made on No. 2 cans (18 fluid ounces) where these were available. Larger sizes are usually more economical.

BRAND AND PACKER OR DISTRIBUTOR	COST PER NO. 2 CAN (¢)	COST PER 4-OZ. SERVING (¢)	AVERAGE SCORE
Grade A			
(In alphabetical order)			
A&P (A&P, NYC)	8	1.8	90
Co-op [1] (Nat'l Coops., Chicago)	7	1.6	91
Dellford (Middendorf-Rohrs, NYC)	10	2.2	90
Florida Gold (Florida Gold Citrus Corp., Lake Alfred, Fla.)	8	1.8	93
Grisdale [1] (Gristede Bros., NYC)	10	2.2	91
Kroger's Country Club [1] (Kroger Groc. & Bak. Co., Cincinnati)	8	1.8	90
Stokely's (Stokely Bros. Co., Indianapolis)	9	2.0	90
White Rose (Seeman Bros., NYC)	9	2.0	90
Grade C			
(In alphabetical order)			
Apte [1] (Apte Bros., Miami)	6	1.3	89
Ariz-Sweet (Ariz-Sweet Pack. Corp., Phoenix, Ariz.)	7	1.6	83
Bernice (Krasne Bros., NYC)	7	1.6	87
Bohack's [1] (Bohack Co., Brooklyn)	9	2.0	84
Bordo (Bordo Prod. Co., Winter Haven, Fla.)	9 [2]	2.7	87
Cresca (Cresca Co., NYC)	9 [2]	2.7	88
Del Monte (Calif. Pack. Corp., San Francisco)	10	2.2	87 [3]
Desert Sweet (Desert Citrus Prod. Ass'n, Tempe, Ariz.)	6	1.3	89
Dromedary (Hills Bros. Co., NYC)	8	1.8	87
Dr. Phillips [1] (Dr. P. Phillips Canning Co., Orlando, Fla.)	9	2.0	88
Engelman Gardens (Engelman Gardens Ass'n, Edinburg, Texas)	10	2.2	88
Fame (Fame Can. Co., Indianapolis)	7	1.6	87
Foundation (Alcoma Corp., Lake Wales, Fla.)	7	1.6	86
Garth (Tyrrell & Garth, Houston)	9	2.0	87
Gerbro (Gerber Bros., Brooklyn)	8	1.8	83
Grand Union (Grand Union Co., NYC)	8	1.8	88
Iris [1] (Haas, Baruch, Los Angeles)	8	1.8	81 [3]
Jack Sprat (Jack Sprat Foods, Marshalltown, Iowa)	10	2.2	86
Krasdale (A. Krasne, NYC)	7	1.6	87
Libby's (Libby, McNeill & Libby, Chicago)	8	1.8	88
Monarch (Reid, Murdoch & Co., Chicago)	14	3.1	86
Natur-Sweet (Natur-Sweet Prod. Co., Los Angeles)	7	1.6	82
Orchard Garden (Alamo Prod. Co., Alamo, Texas)	10	2.2	89
P&G [1] (Paxton & Gallagher Co., Omaha, Nebraska)	12	2.7	85
Palmdale (Sussman, Wormser & Co., San Francisco)	7	1.6	84
Polk's (Polk Co., Haines City, Fla.)	7	1.6	85
Premier (F. H. Leggett & Co., NYC)	9	2.0	88
Red & White (Red & White Corp., Chicago)	10	2.2	86
Roberts (Roberts Bros., Winter Haven, Fla.)	8	1.8	83
Rock Dell [1] (Younglove Groc. Co., Tacoma, Wash.)	10	2.2	85
Royal Rio (St. Clair Foods Co., McAllen, Texas)	8	1.8	84
Royal Scarlet (R. C. Williams, NYC)	10	2.2	87
S&W (S&W Foods, San Francisco)	10	2.2	87
Sanitarium [1] (Battle Creek Food Co., Battle Creek, Mich.)	15	3.3	79
Seald-Sweet (Florida Citrus Exchange, Tampa, Fla.)	8	1.8	88
Shurfine [1] (N. R. O. G., Chicago)	10	2.2	83
Silver Nip [1] (Florida Fruit Canners, Frostproof, Fla.)	10	2.2	89
Sun-Dine (Sun-Dine Co., Phila.)	9 [4]	3.0	83
Sunseald [1] (Whitefield Citrus Prod. Corp., Bradenton, Fla.)	8	1.8	84
Sunshine (Pomona Prod. Co., Griffin, Ga.)	9	2.0	88
Texsun (Rio Grande Valley Citrus Exch., Weslaco, Texas)	7	1.6	86 [3]
Town House (Gen. Food Prod. Co., Oakland, Calif.)	7	1.6	85
Trupak [1] (Haas Bros., San Fran.)	9	2.0	87
Val Vita (Val Vita Food Prod., Fullerton, Calif.)	6 [2]	1.8	77
Won-Up (Engelman Gardens Ass'n, Edinburg, Texas)	10	2.2	87
Yellowstone (Paxton & Gallagher Co., Omaha, Nebr.)	20 [5]	1.7	89

[1] Labeled "Fancy" or "Grade A." [2] 13½-fl. oz. can. [3] Quality variable. [4] 12-fl. oz. can. [5] 46-fl. oz. can.

Wood Furniture: A Guide to Its Selection & Care

Part 1: "Production" furniture and how some of it gets that way

WRITTEN FOR CU by ROY PERRY

IT IS possible to get your money's worth in furniture. A good many badly burned consumers may have doubts on that score, but it's true. The reason for the doubts, of course, is that it's even more possible to get something far short of your money's worth. The furniture business, trickier than a used-car guarantee, offers the groping consumer two fancies for every fact, and raises fraud to the level of an art. That is, a large part of the business may be so described, and that part will get you if you don't watch out.

Still and all, you *can* get good furniture buys. It's the purpose of these articles to give you enough facts about wood furniture and enough advice on the buying of it to tip the odds in favor of your getting them.

The commonest question concerns the kind of wood. Which is most serviceable, and why do some woods cost so much more than others? The U. S. Dep't of Commerce in a report by the National Committee on Wood Utilization[1] once made an effort to answer these questions:

> Assuming that a perfect furniture wood were available, it would possess such hardness and strength as to resist normal wear, tear, and abrasion, yet such softness as to be easily worked with ordinary tools and to take nails and screws without splitting; it would season easily without warping or twisting and would stay in place after manufacture without swelling or shrinkage. It would have natural beauty of figure and grain; it would take stains and various finishes in such a manner as to give pleasing and attractive appearance; and it would be easily repairable. It would be available in such quantities that its cost would not place it beyond the reach of the average consumer.

Of the infinite number of woods that grow, only a select few approach this ideal. The trouble with the cheaper grades of domestic woods is that they are too soft, or else so hard that they require special machining, and, when drying in the home, split very easily. Objections to the imported woods are that their cost is upped by transportation, and that the American climate often causes them to crack.

The chief woods used in American mills are mahogany, walnut, oak, red and sap gum, hazel, maple (plain, curly and bird's-eye), birch, cherry, yellow poplar, quartered sycamore, alder, chestnut, beech, magnolia, tupelo and redwood. Of the imported woods, commonest are Acacia, Carpathian elm, lacewood, English harewood, Macassar ebony, rosewood, satinwood, sandalwood, primavera and zebrawood. (Of the characteristics of the various woods we shall have more to say in later articles.)

The misshapen manner of a tree's growth, usually a freak of nature, is one of the things affecting the cost of the final furniture product. Grotesque knurls and distortions within the trunk of the tree give the finished wood its unusual appearance, and these uncommon growths bring high bids on the lumber market, which, in turn, means high prices for the consumer. Such growths, when cut by experts, create the famous butts, burls, crotches and swirls of expensive veneers seen in mahogany and walnut furniture of fine quality.

But these expensive veneers, and especially the crotch mahogany and burl walnut, have a tendency to "check" if not properly veneered and finished. When first cut, they are rather brittle. When glued, they are under great tension. Changes in atmospheric conditions may cause moisture to creep under the veneer, loosening the adhesion of the veneer to the core with the net result that it curls and peels.

In general, wood furniture does not warp or check in temperatures that are within the range of 45 to 80 degrees, but most wood furniture reacts to very high or very low atmospheric humidity. It is more the lack or overabundance of moisture in the air than temperature changes that causes the blights to the finish and the mishaps to the construction.

WITH this article, CU begins a series of three by a furniture consultant. Later articles will explain how to judge and compare design, finish and construction of wood furniture, both solid and veneered; how to detect misleading selling practices; how to buy and refinish second-hand furniture; how to choose and finish unpainted furniture; how to take care of the furniture you have.

THE term "borax" has crept into both trade and consumer journals in describing certain types of inferior furniture. So far as the trade journals are concerned, the term is usually derogatory only in that it may refer to products made by manufacturers who don't belong to the proper trade association. Arbitrarily, any furniture falls into the borax class when it is ill-designed, cheaply constructed, poorly finished, or produced in indiscriminate quantities for the sucker trade, which is keyed up by grandiose ads to believe it is getting a tremendous bargain at a great saving.

It can't be said that all furniture which comes from "production" factories is distinctly "borax." But almost all of the borax masterpieces that seasonally flood the retail stores had their inception and fabrication in some high-speed madhouse known as a production furniture shop.

This is bound to be. Mass production methods are a prerequisite to the whole idea of "borax" output. But mass production methods *can* be of tremendous value to the consumer. There is no doubt that they have helped to bring furniture at lower cost to many people. And up to a certain point they have served to give present-day customers an edge over those of a few decades ago.

The objection to production-shop methods is not that "borax" pieces come out of them, but that such a high proportion of the pieces are "borax"; not that mass production methods are used but that they are so generally abused.

Probably three-fourths of the furniture on the market is the product of production houses. Some of it is perfectly satisfactory—but almost all of it *could* be. And therein lies the indictment of it. Subsequent articles will discuss means of distinguishing the good from the bad as both are found in the stores. In this article we shall examine certain production methods themselves and some of the abuses to which they are heir.

First, what is the distinction between production and custom-made furniture? Production shops produce in large quantities, usually one uniform design in one or two standard finishes. At the other extreme we have custom shops that make up their orders only to individual specifications. In between is a sort of middle group, neither custom nor production altogether, which caters to the general public and which does not rely upon production methods. These shops

[1] "Furniture, Its Selection and Use," by Clark B. Kelsey; available from the Sup't of Documents, Washington, D. C. 10¢. Also available in many public libraries.

employ craftsmen who are expertly trained by experience properly to fit and to finish each item individually. Time, care and a choice of high-grade materials figure in the fabrication. Such shops do not have to depend on one style or finish. Their workers by necessity have the knowledge to produce a greater variety of styles and finishes.

Production shops, by and large, depend upon cheap materials, cheaper labor, and next to no waste of time during the working day. In the other shops one machine hand can perform all the operations involved in the making of a secretary. In a production shop, 20 men each doing a single operation may be employed for the making of a similar secretary.

The wage scale for a man standing at a machine day in and day out, performing one operation, is far less than that of the skilled artisan who can do everything alone. Boys and even girls in their teens or early twenties are the mainstay of labor in many production factories. They are more active and stand up better under the constant pressure of high-speed production.

IN SEASON, almost all production factories are keyed to a certain standard. Each day just so many pieces must be completed. At one end of the factory may be found a man cutting rough boards—at the other end stands a man who checks out the completed item. Between them is a highly organized maze of belts, benches, machines and rollers. The articles being manufactured are allotted an average amount of attention by each worker, and each must keep up with the tempo of the line, or else a bottleneck will form at his post.

The inevitable and understandable tendency of the worker in such circumstances is to rush the article off as soon as possible before he is reprimanded for breaking down the pace.

It takes time to put screws into wood. If the screws are long and heavy, it requires a special kind of skill besides. Nails are cheaper, go faster, and it doesn't take too much skill to put them in; so nails are used instead of screws.

Gluing is a particular nuisance; it eats up too much production time in drying. If the manufacturer does not forego this step altogether he may use a fast-drying substitute for good glue which will hold together until the furniture gets into a warm home. In most such factories you will find gluing wheels. They work like this: at one end of the wheel stand two or three men who assemble chair parts, glue them and then place the chair into a clamp on the wheel; as chair after chair is thus added the wheel continues to turn until the first chair returns, is removed, and is in turn replaced by another.

The U. S. Bureau of Standards says: "All furniture should stand at least *two days* in clamps to insure good gluing of joints." Is it any wonder that so many cheap chairs fall apart after a few weeks in the home?

For similar reasons the most important features of good construction are purposely avoided. Time eats up surplus profits. A pretense may be made at dowelling, dovetailing, framing, bracing —but it is usually slipshod, backed by the hope that the grossest defects will be lost in the shuffle of production rushes.

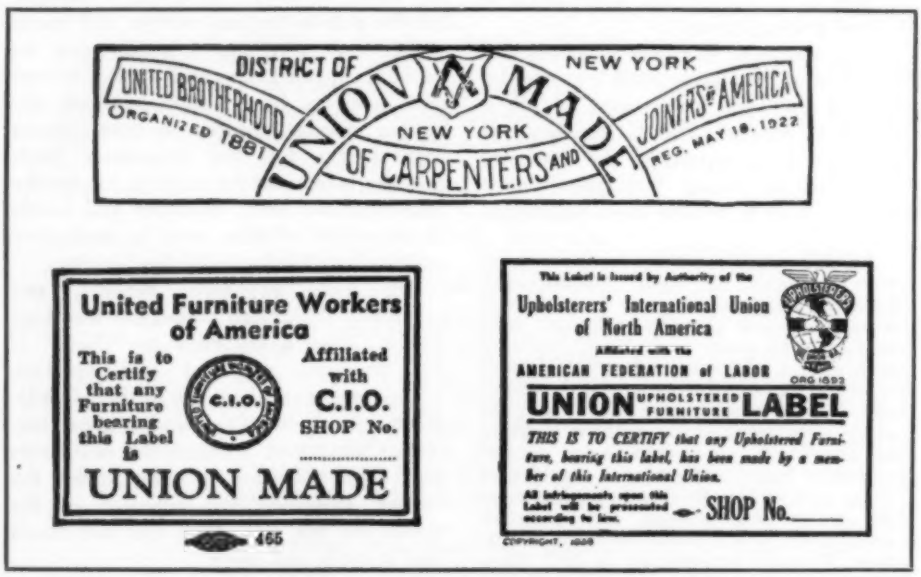
One of the incontestible prerequisites for the making of good furniture is properly seasoned wood. Ordinarily, boards are stacked in the open air in towering piles. They may remain in this fashion for 10 or 12 months, at the end of which time the natural drying process will have taken out all but 15% or 20% of the moisture.

Then they should go into large kilns, which remove the excess moisture (maximum moisture permissible in woods for home furniture is from 5% to 8%).

The kiln-drying process is rather expensive. Boards must be stacked and the temperature must be kept at a specified constant. The air within the kilns must be free-flowing and has to be kept so by an intricate arrangement of blowers and exhausts. Good kiln drying takes about two weeks or longer.

But air-dried lumber taken directly from the outdoor piles can serve the purpose pretty well. It costs much less and it takes less time and time is money. Who, but the guileless consumer, will ever know the difference—and when he finds out it will be too late to complain. You can rest assured that woods used in furniture, *if properly kiln dried. and finished, will rarely warp or crack.* But the "if" has to be satisfied.

There are three basic finishing methods for each type of wood used. The wood may be stained and filled with a silica base filler and then sprayed with one or two coats of sealer and several coats of clear lacquer. This is the customary finish on the market. Another method is to fill the wood with a natural color filler without previously staining it. The third way is to leave the raw wood unfilled under the spray, which leaves the pores of the wood open, free to attack from moisture, grime and caustic polishing oils. "Borax" furniture favors the third way.



IF YOU WANT UNION-MADE FURNITURE, LOOK FOR THESE LABELS

There are about 170,000 furniture workers. They receive, on an average, about 26% of what you pay for furniture—a relatively high ratio as compared with other industries, but not so high in actual earnings. Average hourly wage is around 53¢. Average weekly earnings—during employment —run about $20. Summer and Winter are slack seasons. Mechanization of the industry is increasing, and with it the proportion of semi-skilled, lower-paid workers.

Chief unions in the field are United Furniture Workers (CIO); Brotherhood of Carpenters and Joiners (AFL) and Upholsterers' International Union (AFL). It pays to organize, a recently issued Dep't of Labor survey shows. Workers in organized wood furniture plants work shorter hours, earn more. Even before the Wage-and-Hours Act went into effect, the unions had cut out such working abuses as 55-hour weeks, and wages under twenty-five cents an hour.

IN RECENT years there has come into popularity a slew of "modern" finishes based on some such wood as walnut, mahogany, maple, birch or oak that has been prebleached and may or may not have been filled with white lead or a contrasting color. These modern finishes can be quite desirable in their new state, but time treats them harshly.

All bleaches depend upon the direct action of chlorine, sulfur dioxide or nascent oxygen. The action is caused by powerful chemical agents that are permitted to soak into the wood grain, and the permeation of these chemicals destroys the natural strength of the wood fibers.

Mahogany and walnut are notably affected by bleaching compounds. Depending upon the amount of bleach concentrate that may be left in the pores of the wood, most bleached veneers will turn color and streak unevenly. Since the strength of the wood cells has been impaired, bleached woods have a tendency to check even under average dry temperatures.

The supreme example of an excellent furniture finish was the old piano finish. The average time allotted to it was two weeks. All applications were made by hand, and only the best grades of rubbing varnish were employed. Each successive coat of varnish was evenly flowed and slow-dried in special drying chambers. Owners of such fine pianos can show with pride the smooth luster that still remains after years of usage.

Today the selfsame piano that once took two weeks to finish can be completely sprayed with lacquer and rubbed in two days—one day, if that's necessary to hold the order.

Few furniture finishers who have worked extensively with both varnish and lacquer will dispute the superiority of varnish over lacquer. The base of a high-grade rubbing varnish is a gum resin, the base of lacquer is some form of cellulose. It is possible to put as much as 10 layers of varnish one on top of the other without having the finish crack or curl, but it is considered unsafe to put even five layers of lacquer one on the other. The varnish surface is much harder, much more resistant (although it may give the wood a slightly darker cast than lacquer).

But time is of such importance in modern production factories that the advantages of varnish must be foregone in favor of the quick-drying lacquer. Nor is this the sole reason for changing to lacquer. Since lacquer is sprayed, most anyone can be taught to handle the spray gun in a few weeks, whereas a good varnisher learns his trade slowly after years of experience and his salary by comparison is much higher.

Tanks for Roll Film

They differ in type, material, method of loading, capacity, and in many ways besides. And the best-advertised names don't necessarily go with the best quality. Ratings based on tests follow

POSSIBLY because amateur photographers rebel at junking or exchanging all their darkroom equipment every time they trade in their cameras, the watchword in amateur photographic equipment appears to be "adjustability." With very few exceptions, tanks designed for a single size of roll film have disappeared from the market.

That adjustability has desirable features, no one can deny. Unquestionably, however, certain undesirable features are introduced at the same time. The non-adjustable photographic tank can be made as compact as the film size permits; the adjustable tank must be made to accommodate the largest and longest film which it takes. The reel of a fixed-size tank is simply constructed and rigid; adjustability makes for movable parts which may be difficult to adjust, may get out of order, and are certainly not as rigid as fixed parts.

Among leading makes, only the *Nikor* has survived as a fixed-size tank for amateur use. And it is the only fixed-size tank covered in this report. All the others take films from 35 mm. to 116 (3¼x4¼ in.).[1] Comments and ratings which follow are based on careful examinations and use tests of each of the nine brands covered.

Light-Tightness

Obviously no so-called "daylight" tank worthy of the name leaks light. Light traps are easily constructed, and none of the tanks examined failed in this respect.

Incidentally, the buyer should be careful not to misunderstand the term "daylight" as applied to tanks. It does not mean that the film can be loaded, and development and fixing carried out in full daylight. It means that the tank is loaded in the darkroom, but all subsequent operations may be carried out in daylight.

A type of tank is available for 35-mm. film which does allow daylight *loading*. There are several brands, but they are basically alike—that is, they have a light-tight magazine for the insertion of the film roll, and another chamber for the developer. The roll is inserted into its chamber, then wound up on the tank reel. From then on, development is continued in the ordinary way.

A tank of this type can assuredly be very convenient. But it is seldom used by amateurs for two reasons. In the first place, the price is generally something over $25; a large amount for a comparatively small convenience. And secondly, the daylight-loading tanks so far on the market are not well designed; they are likely to stick or to tear the film, making it necessary to open the tank and make adjustments in darkness, thus defeating the very purpose for which they are sold at such a high price.

Loading

Two methods for loading roll film tanks are in common use. The first involves sliding the film into the reel at the rim, and pushing the entire roll into the reel from the outside. The second method consists of attaching the film at the center of the reel and winding it out toward the rim. Both methods have ardent advocates and as ardent opponents.

Separating fact from prejudice, the conclusions seem to be as follows: While loading at the rim is very simple and easy, so long as it works, sometimes it doesn't work. This is usually true with all films when the reel has not been thoroughly dried. It is especially true with 36-exposure rolls of 35-mm. film, which are sometimes difficult to feed completely into the reel when the humidity is very high.

On the other hand, there are people who—possibly because their hands are too large—simply cannot seem to master the technique of central loading. But the central method has the advantage of permitting loading when the reel is wet, so that it is not necessary to dry the reel thoroughly before developing a second roll; it also permits examination of the film before it has had complete fixation in the hypo and before or during washing.

One of the tanks, the *F-R Special*, is so constructed that either method of loading can be used.

[1] Most of the adjustable tanks are adapted to four sizes: 35 mm., 127 (vest pocket), 120 (2¼x3¼ in.) and 116 (3¼x4¼ in.). A few provide for the 129 size, but there are no longer many cameras using such film.

Material

Tanks are made either of bakelite-type plastic, metal or a combination of the two. Both have advantages and disadvantages. The plastics are all more or less fragile, and dropping them on a hard floor can easily shatter them beyond repair. The metal tanks are less fragile, but they, too, can be bent out of shape so that the lid will fit poorly.

All the tanks examined were constructed of material which will not corrode from photographic chemicals.

The degree of thermal expansion at ordinary working temperatures is insignificant with either plastic or metal, but care should be taken in cleaning the plastic tanks not to use very hot water. It may warp them permanently, and it may cause cracks in them.

Filling and Emptying

It is important that the pouring spouts be so designed and constructed that the developer, water and hypo can be poured in and out in minimum time. Not only is this a convenience, but it is frequently a necessity. If filling and emptying time are long, there is a possibility that the negative may become streaked.

All the tanks covered in this report are filled through a spout in the center; plastic tanks are emptied at the edge of the lid and metal ones at the center, where they are filled. Time of filling for a reel of 35-mm. film is from 10 to 15 seconds, and for 116 film from about 15 to 30 seconds. But emptying time varies from as little as 10 seconds for the *Nikor* to 40 seconds for the *National* with 35 mm.; with 3¼x4¼ film emptying time for *National* runs to 90 seconds.

A fault common to a greater or lesser degree in all the plastic tanks was a tendency to leak around the edge during the emptying process. For this reason plastic tanks should be emptied into a tray or other large receptacle.

Capacity

Other conditions being equal, a tank should, within certain limitations, require a minimum amount of developer for a given film size. For a reel of 35-mm. film (36 exposure), capacities varied from 8 oz. for *Nikor* and *F-R Special* to 16 oz. for *Elkay* and *Marvel;* and with 3¼x4¼ film from about 16 oz. for the *Nikor* and *F-R Special* to 28 oz. for the *Elkay* and the *Albert*. The figures given for amounts of developer are those recommended by the manufacturers.

Temperature

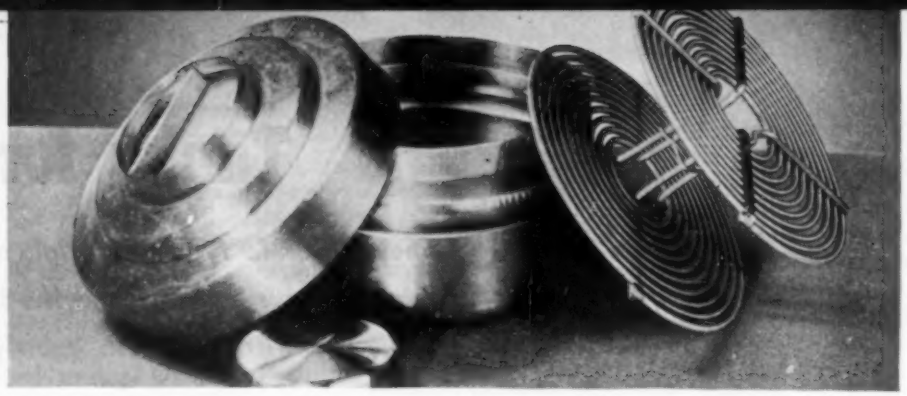
One of the most important factors in film development is temperature of the solution. It should be possible to bring the developer to the desired temperature quickly, and to keep it there throughout the process.

The metal tanks, with their high thermal conductivity, permit quick temperature change, so that it is easy enough to bring the temperature of the developer from a high room temperature to developing temperature simply by immersing the tank for a few minutes in cold water. But once the tank is removed from the water, the temperature quickly rises again. The only thing to do, if room temperature is much higher than developer temperature, is to keep the tank immersed in a bath of the correct temperature.

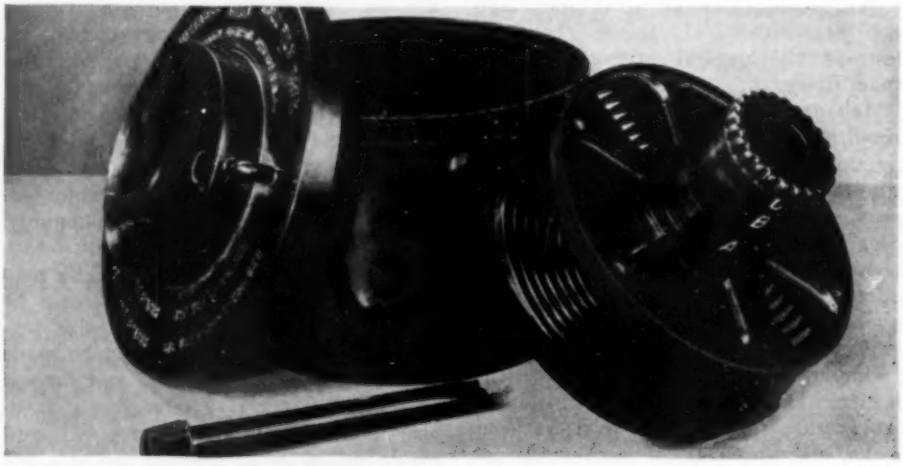
The plastic tanks have greater capacity for retaining temperatures. It takes somewhat longer to bring about a desired temperature by immersing the tanks in water, but, once reached, the temperature is likely to vary only slightly throughout the developing period.

Agitation

All the plastic tanks examined had a stirring attachment which provided agitation by rotation of the reel within the tank. The two metal tanks—*Nikor* and *Kodak*—are simply shaken. Nor is the latter method as disadvantageous as it might seem. Rotation of the reel sometimes permits a portion of the film on it to become unwound. Usually the portion unwound is unevenly developed, and the parts of the negative so affected are useless.



NIKOR: *If you don't need adjustability, this tank gets top rating*



ALBERT: *Adjustable discs (lettered) hold reel rigid at any film size*

Adjustability

Adjustment on most tanks involves sliding one side of the reel along the central core, to fit different negative widths. The *Albert 4-in-1* offers a novel version consisting of a series of small hollow cylinders which can be locked together to give any of four different sizes. The *Fag Jr.*, adjustable to two sizes only, has a slot arrangement which fastens the reel. All other adjustable reels examined were variations of a grooved central core, with a spring device on the top (movable) section to catch in the grooves.

Best Buys

Marvel (Sears-Roebuck). $1.98. All plastic. Loaded at rim (see text). Reel has good rigidity. Lid locks into place. Leaks when being emptied. Requires 16 oz. of developer for 35-mm. film.

Nikor (distrib., Burleigh Brooks, NYC). $4.75 to $7.50, depending on size. Not adjustable, but available in all sizes. All stainless steel. Loaded at center. 35-mm. tank very compact; requires 8 oz. of developer. Filled and emptied rapidly. No provision for thermometer. Consid-

ered the best tank for those who do not require adjustability and who do not object to central loading.

Also Acceptable

(*In estimated order of quality*)

Albert 4-in-1 Adjustable (Albert Specialty Co., Chicago). $3.75. All plastic. Loaded at rim (see text). Adjustment to various film sizes by insertion and removal of discs, rather time-consuming but simple. Reel held rigidly at any film size. Lid fits rather loosely; tends to leak when being emptied. Requires 15 oz. of developer for 35-mm. film.

F-R Special (Fink Roselieve Co., NYC). $1.85. All plastic. Loaded at center or rim, depending on film length. Requires less developer (8 oz. for 35-mm. film) than any other fully adjustable tank tested. Leaks when being emptied. Filling device unsatisfactory; may cause streaking with quick-acting developers. Preferable to put developer in tank first, then put in loaded reel to avoid possibility of streaking. Care must be used in adjusting reel to avoid breakage.

Elkay Ajustable (Elkay Photo Products, Newark, N. J.). $3. All plastic. Loaded at rim (see text). Adjusting device for sizes other than 35 mm. relatively unsatisfactory. Tank tends to leak when being emptied. Requires 16 oz. of developer for 35-mm. film.

Fedco Adjustable (Federal Engineering Co., NYC). $1.85. All plastic. Loaded at rim (see text). Time required to empty tank too long. Difficult to adjust. Lid locks into place. Some tendency for film to stick in loading. Requires 13½ oz. of developer for 35-mm. film.

Fag Jr. (F. A. G. Products Co., Chicago). $1. All plastic. Loaded at rim (see text). Adjustable to 127 and 18 exposures of 35-mm. film only. Method of adjustment simple, but positions inaccurate on some samples. Requires very little developer (6 oz. for 35-mm. film). Lids of samples examined difficult to close. A fair buy at the price if individual sample is carefully selected for proper adjustment to film size and fit of lid.

Not Acceptable

Kodak Adjustable (Eastman Kodak Co.). $5. Metal tank with plastic reel and lid. Loaded at center. Design of baffle on lid of tank such that it can catch on edge of tank and break off if lid is not removed with care. Some users find loading of reel awkward and very difficult. No provision for thermometer.

National Adjustable (DeLuxe Photo Products). $1.85. All plastic. Loaded at rim. Time required to empty tank much too long. Some tendency for film to stick in loading.

Hand Cleaners

. . . are effective, but rough on sensitive skins. Some brands may cause skin irritations. Protective hand creams are useful but not popular. Here are comments on and listings of both types

MECHANICS' soap, hand cleaners, grit soap, &c.—a variety of names used for essentially similar products—are designed to remove dirt from your skin precisely as a scouring powder removes dirt from a tiled floor. They contain soap in paste or powder form, but, like scouring powders, most of them achieve their special results with an insoluble abrasive ingredient; finely ground sand, pumice, feldspar and dolomite are a few such ingredients. And on your hands, the friction of these tiny hard particles may actually take off a thin layer of skin. But that's the only way hands can be cleaned after certain jobs. The process is not objectionable so long as the abrasive is not so coarse as actually to tear the skin.

Because these soaps are used for washing the hands after all kinds of "dirty" work, manufacturers have added various ingredients to remove various kinds of dirt. Most common of these additions are alkalies, such as soda ash and trisodium phosphate; volatile solvents, such as gasoline, benzene, carbon tetrachloride, &c.; and harsh abrasives—harsher than those mentioned above.

These ingredients may do their work. But they have decided disadvantages. Strong alkalies and volatile solvents sometimes cause dermatitis, while harsh abrasives can cut the skin and make way for the entrance of infectious organisms. In the ratings below, excess alkalies are noted where found.

Volatile solvents are sometimes put into soaps because they dissolve oil and grease. But because they interfere with the lathering properties of the soap, they are usually present in small amounts. Despite that fact, they may occasionally produce dermatitis. If such solvents are necessary (as they may be) for the removal of paints or heavy oils and grease, follow their use with an application of vaseline or some other oily preparation to the hands.

Some products consist mainly of a volatile solvent with the specific function of removing paint or lacquer. These products—*Lakeroff* is one—will dissolve away natural oil from the skin, and may cause violent dermatitis. As indicated above, their use should always be followed by the application of some oily preparation.

Relatively new to the hand-cleaner market are the so-called "protective creams," for application before work is begun. These creams form a protective coating on the skin, and they wash off easily, taking with them all of the accumulated dirt. Such products would do away with the necessity for strong alkalies, excessively harsh abrasives and organic solvents. While they have merit, they have not proved popular with mechanics and their commercial development has been slow.

The popularity of the more conventional mechanics' soaps has overrun the limits of their original uses and has penetrated the home. Manufacturers have not been slow to take advantage, with the result that a product which formerly was sold only to mechanics, printers, and the like, is now being boosted as a rapid clean-all for household use. Very many of these products now carry the claim, "also cleans bathtubs, sinks, kitchen utensils, &c."

In view of such label claims, a comparison of hand soaps with scouring powders is indicated (see April *Reports* for a discussion of the latter). Now, as before, it may be pointed out that scouring powders should not be used on aluminum utensils, bathtubs, sinks, or painted surfaces. Neither should mechanics' soaps. These can safely be used on tiled floors, but scouring powder purchased as such will be found to be more economical.

Hand cleaners possess no magic properties. Their composition makes it possible for them to accomplish certain desirable results; that is, mechanical abrasives plus soap will remove greasy, grimy dirt from the hands. Different abrasives will have different effects. Mild abrasives—wood flour, corn meal, sawdust, &c.—can be used when the hands are not too dirty; harsher abrasives can be used for cleaning the most stubborn types of soil.

The soaps listed below, with the exception of the last two, were found to be within allowable limits as regards alkalies. The last two contained trisodium phosphate in appreciable amounts and could prove harmful to certain skins. All of the soaps tested were within allowable limits for fineness of the abrasive. The ratings are based on tests carried on

by a CU consultant during the past few years.

Acceptable

(In alphabetical order)

Boraxo (Pacific Coast Borax Co., Los Angeles and NYC). 8-oz. can, 15¢. A powder containing no abrasive, high in soap content but containing a large proportion of borax crystals, which has a slight abrasive effect.

Dica Soap (Taunton Electro Chemical Co., Taunton, Mass.). 1-qt. can. A paste fairly high in soap content, containing a small proportion of mild abrasive in the form of wood flour. Effective for relatively light soil.

Gre-Solvent (The Utility Co., NYC). 1-lb. can, 15¢. A paste containing a moderate proportion of soap, about 50% of strong mineral abrasive, a trace of mineral oil and a small amount of soda ash.

Lakeroff (Potter & Inglis, Inc., Cortland, N. Y.). A liquid product for removing lacquer, containing a fairly high proportion of soap, and ethyl acetate and isopropyl alcohol as solvents.

Pacific Hand Soap (A&P). 1-lb. can, 8¢. A paste containing a moderate proportion of soap, about 1% of soda ash, and a strong mineral abrasive.

Pro-tek (Du Pont Co., Wilmington, Del.). 8-oz. jar, 35¢. A creamy product to be rubbed into the hands as a protection and removed after work is finished. Contains a moderate proportion of soap, considerable glycerine and sodium silicate.

Ward's Hand Soap (Montgomery Ward). 16-oz. can, 10¢. A paste product fairly high in soap content[1] and containing a strong abrasive in the form of fine sand.

White Flash (Red Ball Products, NYC). 56-oz. can, 15¢. A paste containing a very low proportion of soap, a little borax and a strong mineral abrasive.

Youse (Larkin Soap Co., Teaneck, N. J.). 1-lb. can, 10¢. A paste product containing a moderate proportion of soap, and a strong mineral abrasive.

The following soaps contained an amount of trisodium phosphate which might prove harmful to the skin:

Git Hand Soap (Crystal Chemical Co., Newark, N. J.). 8-oz. can, 13¢. A powder containing a fairly high proportion of soap, a strong mineral abrasive, a little soda ash, and a rather high proportion of trisodium phosphate. The amount of the latter was not as great as that in *Mobo* but was high for use on the hands.

Mobo Hand Cleaner (John T. Stanley Co., NYC). 36-oz. can, 17¢. A powder containing a high proportion of soap, a little borax, a strong mineral abrasive and a high proportion of trisodium phosphate. The amount of the latter was too high for use on the hands.

[1] In the case of paste hand cleaners, a "fairly high" soap content is 15%; few contain more than 20%.

FM: Present & Future

Frequency modulation has been recognized as a full-fledged broadcast service. Its present status and its future prospects, and how the radio listener is concerned thereby, are treated in this article

THE accompanying article on frequency modulation is based upon FCC reports, consultation with FM experts, demonstrations of frequency modulation, common sense and such experiments as the CU laboratory has been able to conduct during the budding days of a new radio system. A further report will be forthcoming as FM transmitters are licensed, go on the air, and the manufacturers swing into Fall production of FM radios and converters.

UNLIKE television, frequency modulation (FM for short) has been given a green light by the Federal Communications Commission. Agreeing with the engineers that FM has emerged from its experimental chrysalis, the FCC has established rules and standards—which it declined to do for television—recognizing frequency modulation as a full-fledged broadcast service.

Modulation, in the radio sense, refers to the changes which take place in a radio wave as it reacts to the electrical impulses caused by sound waves. In the type of modulation now employed by broadcast stations, the radio wave is made stronger or weaker with the vibrations of voice or music. The frequency of the wave (the number of waves per second) remains constant, while its strength varies with the sound it is carrying. This is "amplitude modulation" or AM.

But it is possible also to express sound changes by varying the *frequency* of the radio wave, while the *strength* remains constant. As everyone knows, radio reception of a given broadcast can be varied by tuning it away from the particular frequency at which the broadcast is coming in. Exactly the same effect can be secured by tuning away the *transmitter*—by altering its frequency—and, fundamentally, this is how frequency modulation or FM works.

An FM receiver cannot receive AM signals, nor can an AM radio provide reception from an FM wave except with a converter. The radio listener is therefore concerned with the relative merits of the two systems—and how FM will affect his listening habits, his pocketbook, his present radio and the next set he buys.

FM's outstanding achievement is the reduction of noise. Both man-made and atmospheric static exist as a form of amplitude modulation; that is, they affect the strength of the wave, but not its frequency.

Most of the noise caused in your radio by diathermy machines, x-rays, neon lights, electric razors, incinerators, thermostats and passing cars is frequency modulation. FM can reduce such noise to from one-third to one-thirtieth of what you would get with an AM receiver under similar circumstances. In addition, the background noise caused by the tubes and circuits of the set itself is, with FM, about one-thirtieth of what is experienced with an AM radio. The lack of background noise is one of the most impressive features of FM.

The second claim made for FM is that of faithful tone reproduction. Actually, just as good fidelity on the transmitting end can be obtained with AM, but only by using considerably more power at lower efficiency. Better tone quality can therefore be expected from FM transmitters.

However, fidelity in reproduction is not dependent solely upon the transmitter. The reproduction can be no better than that permitted by the receiving set. It is to be hoped—but it is by no means certain—that most FM receivers will have amplifiers and loudspeakers good enough to permit faithful reproduction.

Fidelity is affected also by the characteristics of the circuit connecting the studio with the transmitting station—usually a telephone line. The loss in quality in transmission from studio to transmitter remains a matter of concern to both the FM stations and the FCC.

In accordance with FCC rules, every FM station must devote at least one daytime hour and one evening hour, every day, to the transmission of material distinct from standard broadcast, which is not duplicated in the same area, and which will demonstrate the full fidelity of the FM system. This will probably mean a studio program, originating close to the transmitter—and apparently rules out the possibility of a radio link. (A high-fidelity radio circuit between the

studio and the transmitter is readily feasible; but this would necessarily result in program duplication.)

The importance of *faithful* reproduction as distinct from simple *noise-free* reproduction depends upon the desires of the individual listener. The much-publicized AM high fidelity has not been as popular as expected. A person who would consider it sacrilege to alter a single overtone in Tchaikovsky's Fifth as heard *in* Carnegie Hall, will often listen to it over the radio with his tone control set to "mellow," cutting out the high overtones. To do the listener justice, he probably prefers this adjustment because it reduces background noise and also the subtle distortions that are more or less inherent in the AM system. As these two objections are largely overcome by FM, it is possible, even likely, that the average listener will be educated by FM to a full appreciation of high-fidelity radio.

FM stations are less affected than AM by interference from stations on the same or adjacent channels, a characteristic that has been further enhanced by the FCC in its method of wave-length allocations (see below).

Summing up, it would appear that any good FM receiver operating within the service area of an FM transmitter should provide reception relatively free from all forms of interference—including natural and man-made static. The degree of quality improvement will depend largely upon the quality of the receiver, but some betterment should be noticed even with ordinary sets. Genuine high-fidelity reception can be attained with a high-quality FM radio.

Electric Fans—Correction

CU regrets that several errors arose in connection with the descriptive comments and data on the *Emerson* 10-inch fan, rated as a "Best Buy" in the June *Reports*. Model number, price and the figure for wattage were stated incorrectly. Model and price were given as 2450B and $11.95; they should have read 2450C and $12.95. The corrected wattage figure (lower than the one cited) raises the *Emerson's* listing in order of quality among 10-inch fans from third to first. It remains a "Best Buy."

Comments in the ratings on the output of the *Samson Safe-flex*, the *Signal* 550A and the *Westinghouse* 10-SQ-3 were in slight error. The data for these fans in the technical table (page 14) accompanying the report were correct.

THE main disadvantage of FM from the point-of-view of the average listener is the limited range of the transmitters. The distance over which an FM signal will provide consistently satisfactory reception is limited to some extent by the horizon and natural obstacles such as mountains and high hills. However, this limitation is not so severe as with television. In making its frequency allocations on the basis of service area, the FCC concedes that an adequate FM station may have a service range of at least 60 miles. Also, the range is constant day and night, which is not true of standard broadcast stations.

The FCC has allocated 35 separate channels, in the range from 43,000 to 50,000 kilocycles, for commercial FM stations. These channels are each 200 kilocycles wide, as compared with the 10-kilocycle channels of standard broadcast stations (only five FM stations could be accommodated on the standard broadcast band). Owing to the short range of the FM transmitters, channels can be duplicated all over the country without interference. Stations, for instance, in Buffalo, N. Y. and Albany, N. Y.—about 300 miles apart—can use the same channels.

These channels are allocated for service areas of a certain size or population. If you live any distance outside of a given service area, there is no sense in purchasing an FM outfit. If you are located on the fringe, you may or may not find FM reception satisfactory.

The allocations are such that only three stations will be permitted in localities having populations under 25,000 and servicing areas not exceeding 500 square miles. The number of stations increases to 11 for populations over 25,000 in areas up to 3,000 square miles.

FM stations will operate on unlimited time, with a minimum of six hours per day—three hours daytime and three hours evening (except Sunday). In addition to the commercial channels, five allocations have been set aside for non-commercial, educational FM stations, which it is to be hoped, will be distributed in accordance with public convenience and necessity.

The Federal Communications Commission has returned to applicants some 150 station applications which were pending, and which are now affected by the new rules and regulations governing high-frequency stations—notably FM. It is assumed that a large majority of these applicants will re-apply on the basis of frequency-modulated stations.

The locations of the many new transmitters tentatively planned are scattered from coast to coast and from the Canadian border to the Gulf of Mexico. It will probably be some time, however, before these stations are licensed and are actually on the air. Twenty FM stations are now in operation on experimental licenses in large metropolitan centers. There will probably be 20 more by the end of 1940.

OUTSTANDING ACHIEVEMENT

. . . of FM is reduction of static, both man-made and atmospheric. In tests at the GE exhibit at the New York World's Fair this FM set's reception was clear and noise-free despite proximity of 1,000,000-volt arc

FREQUENCY MODULATION can be received on FM radios and on ordinary radios with converters. The converter is a separate device—almost another radio—which tunes in FM signals, and, in most cases, turns over the "audio output" to the standard broadcast receiver for amplification and transfer into sound. The fidelity of the converter-radio combination is limited by the fidelity of the amplifier and speaker—in most sets, relatively poor. Nevertheless, noise reduction and some improvement in fidelity may be expected. (Philco contemplates a wireless converter. While no model has yet been available for test, it is probable that this type of converter will be considerably less satisfactory from the standpoints of noise reduction and fidelity.)

At present there are a dozen or so manufacturers licensed to make FM

radios and converters—including RCA, Lafayette, Crosley, Zenith, Philco, Stewart-Warner, Scott, Stromberg-Carlson and General Electric.

A guess at the rate at which FM may grow is provided in the estimate of *Radio Today* (trade publication) concerning production of FM receivers. Usually overoptimistic on any matter concerning radio sales, *Radio Today* calculates that only 10% of 1941 receivers will be capable of FM reception, and that it will be five years before the 50% mark is reduced.

It is the FCC's opinion that "Present standard broadcasting will continue, and certainly for a number of years will render full service. The extent to which in future years the listeners will be attracted away from the standard band cannot be predicted."

Commercial broadcasting in this country is supported by advertising—much of which must reach rural and semi-rural areas which probably will not be serviced by FM for many years. Also, there are in operation some 20,000,000 AM radios capable of giving service for another five or 10 years. Owners will be reluctant to dispose of them. The investment in AM stations, furthermore, runs into millions of dollars, and applications covering such stations continued to pour in on the FCC subsequent to the start of the FM boom.

Finally, there is always a short-wave audience which must be served by amplitude modulation. It is highly questionable that the "all-wave" radio of the future will dispense with the standard broadcast band.

While there is no doubt that FM should be given serious consideration by the prospective purchaser of a new radio who lives in or close to a city, CU can make no general recommendations on buying a new receiver until sufficient models are available for test. Meantime, the following practical considerations are worth noting:

Combination FM-AM radios will necessarily cost more than standard receivers, and FM radios alone will be somewhat more expensive than AM—particularly when they incorporate a high-fidelity audio system.

Converters will sell anywhere between $50 and $100. The converter, in a separate cabinet, makes a two-unit radio, which may not be a decorative combination in the living room.

A special antenna may be required, and the installation charge for an FM radio will often be an "extra."

There seems little danger of rapid obsolescence in FM receivers. Nevertheless, it is logical to assume that FM radios for 1942 will be better than the 1941 models.

MEDICAL SECTION

HAROLD AARON, M. D., *SPECIAL MEDICAL ADVISER*

MEDICAL CONSULTANTS: **Dr. Anton J. Carlson**—Chairman, Dep't of Physiology, University of Chicago; Past President, American Physiological Society; **Dr. Theodor Rosebury**—Assistant Professor of Bacteriology, College of Physicians & Surgeons, and School of Dental and Oral Surgery, Columbia University; **Dr. Marion B. Sulzberger**—Ass't Professor of Clinical Dermatology and Syphilology, New York Post-Graduate Medical School, Columbia University; Editor, *Journal of Investigative Dermatology.*

CU's Medical Consultants give technical advice on matters of medicine which lie within their fields. CU is responsible for all opinions concerning social, economic and public health questions.

The Treatment of Acne

The fundamental cause is unknown and there's no sure cure. But treatments can be helpful. A symposium of specialists' opinion is here digested

THERE are few common ailments that can cause as much mental anguish as the skin disorder known as *Acne Vulgaris*—acne, for short. While most common in adolescence, the pimply eruptions that characterize the condition may continue through early adulthood and may even be responsible for permanent disfigurement. What they can mean in terms of anxiety and self-consciousness is obvious.

The multitude of remedies applied in the treatment of acne is simply a reflection of the fact that the fundamental cause is unknown. Much can be done, however, by the intelligent use of the treatments. What some of the most eminent skin specialists in the country do for their patients is reported in a symposium appearing in a recent (April) issue of the *Journal of Investigative Dermatology*, edited by Consumers Union's skin consultant, Dr. Marion B. Sulzberger.

Since no better nor more up-to-date survey of competent medical opinion on the treatment of acne is currently available, CU offers here a digest of comments taken from the symposium.

X-Rays. In most instances roentgen (x-ray) therapy is effective, but is not used unless local remedies (lotions, salves, &c.) have failed materially to benefit the condition in a period of one or two months. X-ray treatments are seldom given before the age of 15 to 17 because of the possibility of recurrence. Hair on the face is not caused or aggravated by x-ray treatment.

Local Remedies. All specialists stress the value of local measures. These include the liberal use of soap and water and the application of a lotion such as *Lotio Alba* or a preparation containing resorcin or sulfur with the object of keeping the skin somewhat dry. The scalp must always receive attention. Comedones or blackheads and postules are carefully extracted or evacuated. Self-treatment with comedone extractors is usually discouraged. Picking or squeezing of the pimples is definitely forbidden.

Diet. Any evident dietary irregularities are corrected and most patients are told to discontinue eating chocolate and other foods such as cheese and nuts. Iodized salt is prohibited by most of the doctors. Patients are encouraged to eat a well-balanced diet containing fresh fruit, vegetables, green salads, milk and lean meats. It is not believed, however, that indiscretions in diet are the cause of or the precipitating factor in most patients with acne. Carbohydrate foods or sweets (except for chocolate) have no influence on development of acne.

Vitamins. Vitamin preparations are without value in treatment of acne.

Vitamin Summary

A FULL summary of the functions of the important vitamins, giving comparative costs from various sources, is in preparation and will appear in the September *Reports*.

Cod-liver oil may make acne worse.

Hormones. While it is believed that acne is related in some fundamental way to an imbalance of hormones, hormone preparations by mouth or injection have been of little or no value.

Vaccines. Since there is no evidence that acne is caused by a germ, vaccines are not generally used. When they are, they are found to be of little or no value. "Staphylococcus toxoid" was thought to be of some value by only one dermatologist.

Ultra-Violet Light. Sunlight or artificial ultra-violet rays are temporarily useful in producing peeling of the skin. In most instances the results obtained from sunlight are indifferent or disappointing.

Laxatives and Cathartics. Both are avoided. If there is constipation, it is corrected by diet and exercise.

Directions for Acne Patients

The following directions, provided by a well-known skin specialist to each acne patient visiting his office, are quoted from *Dermatologic Therapy in General Practice*, by Drs. M. B. Sulzberger and J. Wolf (Year Book Publishers, Chicago).

THE underlying disturbances in this skin trouble are overactivity and plugging of the minute glands of the skin. This overactivity often occurs at puberty. It may clear up spontaneously after a few years, or it may persist. This disturbance, when it affects the glands of the scalp, may lead to dandruff or oily hair; when it affects the glands of the face, to large pores, oiliness of the nose, and blackheads, whiteheads and pimples, which may also appear on the back and chest. Acne is not catching and is not dangerous, but may sometimes leave pitting and scarring.

The local treatment of acne is directed toward the dissolving and removal of the plugs in the openings of the glands. To accomplish this, hot water and a good white soap should be used freely (usually at least two or three times a day). The affected skin should be washed with a rough cloth or a complexion brush. At night, after the last washing, the prescribed acne lotion or cream should be applied freely by gentle massage to the affected parts of the skin. The lotion (which will dry to a white powder) or the cream should be left on over night, and should be removed with the usual soap and water washing in the morning.

Temporarily, the skin should become somewhat dry and roughened under this treatment. This temporary roughness is desirable, for it constitutes a mild peeling which opens the plugged pores. However, if peeling should occur to such an extent that the skin becomes very red and uncomfortable, the applied remedy should be discontinued for one or two nights. While this remedy is being used, no applications or treatments other than those prescribed are permitted. Greases and creams of all sorts are prohibited unless prescribed, since they often add more grease to that which is already present in the gland openings, thus tending to make the acne worse.

Care of the scalp is essential in the treatment of certain types of acne. In such cases the hair should be shampooed at least once a week, preferably twice a week. Each night a little of the prescribed scalp lotion should be poured into a saucer; a soft toothbrush is then dipped into the lotion, the hair parted and the roots of the hair and the scalp massaged with the moistened brush. Then the hair should be parted again about 1 in. from the first parting, and the lotion again rubbed the length of the part. This procedure is repeated until the entire scalp has been treated.

Experience has shown that the following tend to make some cases of acne worse, and must therefore be carefully avoided:

Medicines

Iodides: *Look at the package of salt in the kitchen. If it is marked "iodized," discard it! Also, cough mixtures and other medicines may contain iodides.*

Bromides: *Bromo-Seltzer, triple bromides, bromoquinine laxative, nerve medicines and sedatives containing bromides, &c.*

Sedatives: *In certain exceptional individuals, any or all sedatives and "sleeping medicines" may make the skin worse.*

Foods

Chocolate: *In any form.*
Nuts.
Sharp cheeses.

In addition, other foods may, in exceptional cases, make acne worse. Common among these are: shellfish, sea fish, oatmeal, pork and pork products, malted drinks, milk, eggs and spinach. If you have noticed a harmful effect from these or other foods, eliminate them from your diet.

The Docket

The Federal Trade Commission has issued a complaint against:

Post Institute, Inc., Post Institute, Louis J. Stern, and **Helmuth M. Kiesewetter.** The complaint alleges that the respondents, who are engaged in the sale and distribution of *Ultrasol Hair Bath, Ultrasol Pituitary Fluid* and *Ultrasol .33* have represented that these preparations will revive the growth of hair and are cures for baldness and that they will check premature graying and also cure dandruff. These claims, the Commission alleges, are exaggerated, misleading and untrue. The Commission further stated that there is no scientific basis for the assumption that pituitary or other substances applied to the scalp will stimulate hair growth.

In 1929 the Division of Legal Medicine of the Dep't of Health of New York City stated that "the Post Institute is operating a quack game." The Bureau of Investigation of the A.M.A. in 1935 characterized the claim of growing hair by rubbing pituitary gland extract on a bald head "as fantastic a piece of hokum as had been seen for a long time."

The Federal Trade Commission has taken action against:

Charles E. Hires Co. The company agreed to cease advertising that its *Hires R-J* Root Beer will preserve the alkaline reserve; has the same alkaline reaction as orange juice and in the same manner aids in maintaining the alkaline balance; and is healthful because it is not acid-forming.

The Food & Drug Administration has seized:

Candy. The FDA's campaign against misleading packaging has been extended to the candy industry. At the same time FDA officials are inspecting candy factories in a drive against shipments of candy contaminated with filth. One official is reported to have found conditions in some factories to be "indescribably filthy."

Among the numerous seizures made were the following: 1,340 boxes of candies manufactured by Delight Sweets, Inc., the charges being misbranding because of deceptive containers and because statement of quantity was not properly displayed; 28 cases of *Dixie Twist* candies manufactured by Paris Candy Co., the charges being adulteration because the products were alleged to contain rodent hairs or insect fragments.

GENERAL SECTION
CONSUMER NEWS AND INFORMATION

U. S. Grade Labeling Begins

The Agricultural Marketing Service starts continuous inspection and grade labeling of plants and products of four canners; success of the project is up to consumers, who have long urged it

IN A New York hotel one day last May members and guests of the American Marketing Ass'n, including 19 "typical housewives" picked for the occasion to represent the consumer's voice, sat at lunch. For dessert two separate dishes of pineapple were served. The housewives were asked to eat, compare, note down their preferences.

Next day the New York *Times* headlined "Sixteen Housewives Pick Grade B Pineapple over U. S. Grade A." The story told how the announcement at the luncheon that all but three of the housewives had preferred the lower grade was greeted with "laughter."

In Washington, Dep't of Agriculture experts greeted the story with something less than laughter. How could the ladies have preferred Grade B to U. S. Grade A pineapple when no government standards at all had ever been set for pineapple? Who was playing fast and loose with government grading?

Said the *Times* in answer to an inquiry from the Dep't of Agriculture: they'd reported only what their reporter had been told by the Marketing Ass'n. Said an official of the Marketing Ass'n: "I can assure you that my face was red when I received your letter." What the housewives had tasted, it turned out, was simply two different brands of pineapple, neither with anything like a grade label; 16 had liked one brand, three had liked the other.[1]

If the American Marketing Ass'n was by any chance trying to put grade labeling in a bad light, it was doing no more than carrying out a general policy of the canning trade. For years American canners, while grading their goods for Canadian export, have insisted that grade labeling would not work in the United States. Only cooperatives, one or two chain stores and a few small packers have attempted to give consumers any kind of grade information on the label.

Last month the long fight of the canners against grade labeling received a setback, and the long fight of consumers for it received a major boost. The Dep't of Agriculture's Marketing Service announced a real break in the canning front—an experiment which, if successful, may bring grade labeling to almost all canned goods.

The experiment: four sizable independent canners are submitting their plants and products to continuous government inspection, placing U. S. grade labels on their 1940 packs. Buyers of these products will know—not guess—the quality of goods inside the cans.

The four companies—picked for clean plants and up-to-date equipment, as well as for their willingness to cooperate—are Schuckl & Co. and U. S. Products of California; Cherry Growers, Inc., of Michigan;[2] Curtice Bros. of New York.[3] Products graded will include cherries, peaches, pears, asparagus, corn and tomatoes. In addition, soups packed by the Schuckl Co., and fruits for salad and cocktails, will be inspected but not graded, as no government grades for these items have as yet been established.

The graded products will carry the official U. S. grade label, a shield-shaped insignia, with the statement: "U. S. Grade A (Fancy). These goods were packed under the constant inspection of the U. S. Dep't of Agriculture and this grade officially certified." Products grading B (Choice) or C (Standard) will be so labeled. In addition to the statement on the label, the shield-shaped insignia will be embossed on the can or blown into the bottom of the glass container.

Back of the grade label is the inspection of the U. S. Agricultural Marketing Service. Official graders will be on continuous duty at the plants, will inspect and grade the entire pack in accordance with established U. S. standards. The canners will pay the cost, amounting to a small fraction of a cent per can.

CANNERS have fought grade labeling for fear that it will weaken the value of their expensively built-up brand names. Advertising agencies have opposed it for fear that it would tend to reduce sums spent for advertising. But the anti-labeling front has been broken—and very possibly because of a series of economic pressures set in motion by big California canners.

Time was when independent California canners competed with the big firms, Calpac (*Del Monte*) and Libby, on a price basis. But in recent years Calpac and Libby have grabbed control of price by marketing agreements, have established prior claims on most of the crops, have made price competition impossible.

What Do Grades Mean?

HERE is a summary, for your convenience, of the meaning of U. S. Government grades for canned foods.

U. S. Dep't of Agriculture standards of quality for canned foods are set after careful study of the goods actually being produced in canneries throughout the country. Standards cover such factors as size, color, absence of defects, flavor, maturity, tenderness, clearness of liquor (for some canned vegetables), &c. And each factor has a definite weight in the final score. Samples of the products to be graded are examined and scored according to the standard. The scores determining the grade vary with the products, but roughly they range about as follows:

Grade A (Fancy)—90 or above
Grade B (Choice)—75–89
Grade C (Standard)—60–74
Substandard—below 60

Grades A, B and C are almost always equally wholesome and nutritious. They differ in flavor, texture, appearance, and the uses for which they are suitable. No canned foods dangerous to health may legally be sold, although FDA Notices of Judgment would indicate that such goods do find their way to market.

[1] The New York *Times* ran its original story under a large two-column headline. It has since been given the full facts but has to date run no correction.

[2] This firm started grading its cherry pack last year.

[3] Corn pack only.

Lacking funds to advertise, the independents looked around for other ways to sell their pack. In grade labeling they hope they have found one. If the experiment works, and if as much as 25% of the industry adopts it, even the big canners may have to take it up in self defense.

To consumers grade labeling will mean a great deal. It will mean that when they pay the Grade A price, they can be reasonably sure of getting Grade A quality. It will mean that when they choose to use the perfectly wholesome and nutritious Grades B or C, they can get them at a lower price consistent with their quality. For farmers and canners, grade labeling opens up possibilities of bigger distribution. Low-income families can buy Grade B and Grade C goods they need, if prices are right. Families who will not now use canned goods may turn to them if quality can be assured.

Will the experiment succeed? That depends partly on how consumers take to the new grade label. The Agricultural Marketing Service expects to check on this by careful surveys at points of sale. Distribution will be at first through large chain and department stores. Home economics demonstrators from State universities will explain the meaning of the label, check from actual sales just how the public feels about it. If the label meets with popular acceptance, says the A.M.S., the experiment may be intensified. If the public does not respond, it will be discontinued.

GRADE LABELING may fairly be called the consumers' baby. Constant pressure and education by women's clubs, consumer groups and consumer testing organizations have given it stature as an idea and as a practical possibility. Right now it's very much in order for consumers to watch grade labeling, encourage it, see that it grows. Each CU member can help by finding out where he can get the U. S.-graded goods, buying them and encouraging his friends to do likewise.

No list of retail outlets is yet available. It might be worth while to ask the packers where you can get the graded cans. Their addresses:

U. S. Products Corp., San Jose, Calif. (Cherries, peaches, pears, fruits for salad and cocktails.)

Schuckl & Co., Sunnyvale, Calif. (Same lines as U. S. Products, plus asparagus, tomatoes and soups. The soups are inspected but not graded.)

Curtice Bros. Co., Rochester, N. Y. (Corn.)

Cherry Growers, Inc., Traverse City, Mich. (Cherries.)

Your Telephone Bill: V

An answer to an important question that earlier articles in this series have raised: what can you, as telephone users, do about your phone bills?

FINAL ARTICLE IN A SERIES WRITTEN FOR CU by MORITZ HOWARD

EARLIER articles in this series, based largely upon the investigation of the Bell System by the Federal Communications Commission, have established the following major points:

1. Bell System accounting practices lead to unnecessarily high rates. For example, annual depreciation charges are far in excess of the actual property depreciation which the telephone companies experience; while in rate cases the companies, ignoring their high annual depreciation charges, claim that their property is substantially as good as new. (March Reports.*)*

2. Bell System engineering practices, while they result in the rendering of service which most subscribers consider satisfactory, are often far from economical. For example, introduction of the handset telephone was delayed for many years; the handset transmitter finally introduced was defective and resulted in excessive maintenance charges; and manufacture of the defective handset transmitter was not discontinued until long after Bell System companies themselves complained. (March Reports.*)*

3. Bell System policies are launched without consideration of their social effect. For example, the change-over from manual to dial operation in many instances did not bring any resulting economy, but did result in widespread unemployment. Thousands of telephone operators were replaced by automatic switching equipment; and the payment of interest on the added investment offset or more than offset in many cases the savings on labor. (April Reports.*)*

4. Through its complex corporate set-up, the Bell System is able to syphon profits out of regulated companies and into unregulated companies in the System. Examples found are in the sale of equipment by Western Electric to local Bell companies, and in the division of long-distance revenues between local Bell companies and the holding company, A.T.&T. (May Reports.*)*

5. The heart of telephone rate regulation is the State Public Service Commission. Through contacts with local newspapers, bankers, civic clubs, &c., and through highly organized lobbying activities, the Bell System seeks to influence these State Public Service Commissions. (April and July Reports.*)*

6. Local rate cases, if effectively prosecuted, reveal fantastic overstatements of Bell System valuations and understatements of Bell System earnings. In the current St. Paul rate case, for example, property which the company claimed to be worth $17,000,000 was found to be worth only $8,500,000; and the company which claimed to be earning only $909,000 was found to be earning more than $1,700,000. (July Reports.*)*

The remaining question is: what can you, as telephone users, do about your telephone bill?

IF ONE brand of food product is too expensive, or one brand of mechanical goods too inefficient, your remedy is simple—buy a competing brand. But in most areas A.T.&T. has no competitors. With rare exceptions you must pay Bell System charges for Bell System service, or go without.

To meet this situation, most States

CONSUMERS UNION
17 Union Square W., N. Y. C.

I am enclosing $....., for which please send me the material I have checked below:

- ☐ "Good Health and Bad Medicine," by Harold Aaron, M.D.—Price for CU members, $1.50.
- ☐ "Our Common Ailment," by Harold Aaron, M.D.—Price for CU members, $1.
- ☐ Special Combination Offer: "Good Health and Bad Medicine" plus "Our Common Ailment"—$2.25.
- ☐ "False Security," by Bernard J. Reis —Special Price, $1.
- ☐ "Life Insurance: Investing in Disaster" —Price for CU members, 60c
- ☐ "Wines & Liquors," 1940 edition—50c (Not knowingly sold to minors)
- ☐ "Feminine Hygiene"—25c (Please initial this statement: I am married and use prophylactic materials on advice of a physician.....)

NAME.....

ADDRESS .....

..... 8SPO

have provided by law for the regulation of public utility rates. State Public Service Commissions are empowered, subject to review by the courts and constitutional limitations, to determine what rates will yield the company a fair return on the value of its property, and to enforce such rates. The State Public Service Commissions customarily have jurisdiction over telephone, electric light and gas monopolies.

But State Commissions do not act automatically, or in a vacuum. They respond, as do other organs of a democratic government, to the pressures upon them.

All too often these pressures are one-sided, emanating entirely from the companies supposedly being regulated. In their day-to-day activities, the Commissions are constantly faced with public utility representatives specially selected for their ability to make friends and influence people. These representatives see that the company's side of the case is constantly and persuasively before the eyes of the commissioners and their staffs. Commissioners need not be corrupt or incompetent to be swayed by such pressure; they need merely be human.

The consumers' side of the case is seldom similarly presented. Few State Public Service Commissions have ever actually seen a live specimen of the consumer species who has mastered the intricacies of local telephone and public utility policies. Most commissioners know from experience that consumers will neither rise in wrath when the Commission yields to company demands nor come to its aid when it stands firm against company pressure.

If a single consumer organization were to appear consistently at State Commission hearings, and line up other organizations in vigorous support of effective rate regulation, the effect on the Commission would be more than worth the effort.

THE first step, then, is to organize a consumer organization if none exists, or a special committee of an existing organization. Cooperatives, women's clubs, labor unions, independent political units —such groups have on occasion taken the lead in local public utility fights. Every member of such organizations has a direct, personal, monetary interest in lower telephone, electric light, and gas bills.

Mobilization of the political power of such organizations to support consumer interests can, in part at least, offset the political power of the public utilities. Such mobilization may be attacked as lobbying and as pressure-politics. It is. But rate regulation is already subject almost universally to lobbying and pressure-politics. You can hardly expect a telephone or electric light company to accept a rate cut without first exercising all the influence it has. Consumers certainly have the same right, even duty, to make their views heard when consumer interests are at stake.

A consumers' public utility committee or organization need not be large to be effective; but it must be hard-working and vocal. Its function is not to overpower an enemy, but to present a point of view. Half a dozen zealous workers can perform such a task more effectively than a hundred or a thousand lackadaisical members.

As a starter, such a committee or organization can, for example, determine how many years have elapsed since a thorough valuation study has been made of local telephone, electric light, and gas companies. If many years have elapsed since the last valuation, demand that one be instituted forthwith. In some States the Commission is required to institute a rate investigation whenever a stated number of consumers petition for it.

The public utility will no doubt send a vice-president to prove with apparently convincing facts and figures that even at present rates it is barely making a fair return. If this is true, the company should have no objection to a thorough investigation. Often, as earlier articles have noted, the company's accounting crumbles when investigated in the light of the actual facts. Revenues, expenses, depreciation, and "fair value" must all be closely scrutinized by competent accountants, engineers, and lawyers; a periodical valuation proceeding merely applies such scrutiny.

Such proceedings cost money. The chances are excellent that your State Commission is understaffed and overburdened with mere routine labors. Pressure on the State legislature may be required to procure an added appropriation. Best arrangement is the appropriation of a revolving fund from which the Commission can constantly draw for successive investigations; the fund is replenished by billing the utility for the costs, and a renewed appropriation is thus not needed for later investigations.

Once a rate case or valuation proceeding is begun, your city administration can be of great aid. Induce your city attorney or city engineer to prepare the city's side of the case and present it to the Commission. This is a duty of the city administration; see that it is not shirked. Remember that a local group of organized consumers may loom larger in the political economy of your city hall than in a State capitol.

The State attorney general is another key figure in public utility rate regulation. In most States he acts as counsel for the State Commission in preparing its orders and in defending them before the courts. Much depends upon whether the attorney general can be made to see that consumers are genuinely interested in the way he handles such cases—interested enough, for example, to study his record before voting at the next election. For it is at the polls that ultimate consumer power lies.

A few public officials concerned with public utility rate regulation are no doubt corrupt.[1] Some are incompetent. The majority are simply in search of re-election. The tragedy is that too often the easiest road to re-election is to avoid offending the one group which takes an interest — namely, the regulated companies. Consumer organization can do much to make effective regulation "smart politics."

[1] The commonest form of corruption is indirect and insidious: a job at some future date with a public utility. Commissioners and commission employees are aware from a host of precedents that if they are careful not to annoy the companies they are regulating, they will eventually be able to get a better-paying job with one of the regulated companies. Better pay for commissioners and commission employees, more careful selection, security of tenure, and a legal prohibition against commissioners or commission employees joining regulated companies within two years after leaving the commission are possible weapons against this subtle and well-nigh universal form of corruption.

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ONCE the political figures in a State or city realize that there is a "consumer vote," watch out for tricks. Occasionally, for example, a State Commission will order a rate cut on the eve of an election, and ride into office amid the plaudits of uninformed consumer groups. Immediately after the election the company will procure a court injunction setting aside the rate cut on the grounds that it was not based upon full hearings and competent evidence. Perhaps the attorney general aids the scheme by failing to defend the Commission's order effectively. The old rates remain in force, the company is undisturbed by the political maneuver, and the Commission meets demands for renewed investigation by claiming that it has tried once and failed.

Such tactics too often succeed in misleading consumers. An efficient consumer organization must see through such subterfuges—and unmask them publicly.

In reaching the public, local newspapers may prove to be more cooperative than you expect. One consumer group was astounded, for example, when the most reactionary newspaper in its community devoted front-page space to reporting its speeches and press releases. This happy condition lasted for several weeks—until the company being criticized started a new advertising campaign. In other communities one newspaper may play up consumer activities in public utility cases simply to prove that, unlike its competitor, it is not a tool of the interests.

When newspapers are unavailable, pamphlets can always be published. At least four such pamphlets have been sold throughout Minnesota as part of the current telephone rate battle there.

Lawyers can be especially valuable in a public utility rate fight. A close study of State laws will often reveal excellent means by which consumers can act directly even when the State Commission opposes them. For example, there may be legal procedures for the removal of commissioners who fail to act, or the possibility of direct legal intervention by consumers in cases where a State attorney general fails to prosecute a rate case effectively. Such direct consumer action has been amazingly effective in both St. Paul and Chicago.

THE task faced by a consumer committee or organization is far from an easy one. The public utilities have been politically entrenched in most States for many decades; they know the ropes and have well-nigh unlimited resources, contacts and skill. But the consumers' task is nevertheless far from hopeless. Every user of a public utility is a potential ally. Under vigorous leadership consumers have procured in some States, and can procure elsewhere, improved public utility legislation, improved enforcement of legislation on the books, and an immediate reward through lower telephone, electric, and gas bills each month.

The present is a peculiarly fortunate time to launch a consumer campaign. The 1939 and 1940 earnings statements of telephone companies and many other public utilities indicate that profits are higher than ever before, in spite of various bookkeeping devices used to keep them from showing in corporate statements. A general downward revision of telephone rates is already overdue; it will come as soon as—but not before—public demand is unmistakably heard by the various regulatory bodies.

War & Prices

Twelfth of CU's special reports on effects of war on prices & products

Price Movements

LIVING costs on July 1 were 2.2% above the pre-war level, 2% above last year, the National Industrial Conference Board reports. And retail food costs are now 4.9% higher than a year ago, according to the same authority. The Fairchild Index of department store prices rose slightly in June and now stands 4.3% higher than last year. Among products showing the greatest price increases are blankets (9.9%), furs (12.8%), floor coverings (10.5%). Many wool rugs were scheduled to go up another 10% on August 1.

Wholesale commodity prices dropped steadily during the first weeks of July. By July 25, the combined prices of 28 basic commodities reported by the Bureau of Labor Statistics stood 6.6% above the pre-war level—the lowest point since September 2, 1939.

Price Prospects

Immediate price rises are not indicated. Business is gloomy at the prospect of a British defeat, with consequent cancelling of many war orders. At the same time, it is recognized that successful British resistance and a protracted war would raise many problems of what business calls an "oversupply" of commodities. Many North and South American goods normally exported to Europe would remain in the home markets.

The U.S. will hold, in 1940, bigger-than-ever surplus stocks of essential farm products. Reports the Dep't of Agriculture:

	5-year Average 1935–1939	1940 Estimated Stocks
Wheat (millions of bushels)	172	288
Corn (millions of bushels)	249	675
Oats (millions of bushels)	168	140
Cotton (thousands of bales	8,336	11,000

Exports of farm products other than cotton declined more than one-fourth during the first eight months of the war, says Secretary Wallace. Proposed plans for distribution of the surplus include supplying food to Europe (reports of poor crops raise the possibility of general European famine this Fall and Winter) and expanding through the food stamp plan and other means the use of farm products in the United States.

Prospects of Individual Commodities

Wool. There seems no expectation of an immediate price rise. Government orders raised wholesale prices for a time. But the market is flooded with South American wool, Australian wool has not been as difficult to get as was anticipated, and British manufacturers of woolen cloth are reported ready to compete with our own for our market. The effect has been to lower prices.

Wheat. Wheat prices depend very largely on the war. If it becomes possible to export to Europe, wheat prices may remain steady or increase. Otherwise, prices will probably continue going down. Although wheat flour is now lower priced than a year ago, the price of bread is still a penny more per loaf in many cities.

Leather. The wholesale price of hides has fallen over one-third since January and is now lower than a year ago, due to an influx of South American hides.

Fuels. Wholesale prices of coal, petroleum and gasoline are lower than last year. Kerosene is higher. The petroleum and gasoline decreases are attributed to the loss of European markets. Minimum coal prices are now being set by the U. S. Bituminous Coal Division, in accordance with the 1937 Bituminous Coal Act.

Coffee. On July 7, Brazil decreed a 45% curtailment of its coffee exports in an effort to bolster the falling prices.

Cotton. In spite of the big surplus crop anticipated, prices of raw cotton are still higher than a year ago. Wholesale prices of print cloth are very slightly lower than last year.

"This book, then, is one that should be found alongside the medicine chest in every home."

A HIGHER tribute to a health book for the layman would be hard to imagine.

The author of the words quoted above is Dr. Walter C. Alvarez, world-famed internist, Senior Consultant of the Division of Medicine of the Mayo Clinic and editor of the *American Journal of Digestive Diseases*. The book he refers to is "Good Health and Bad Medicine," the newest work of Dr. Harold Aaron, Medical Consultant to Consumers Union.

Read what else Dr. Alvarez has to say about "Good Health and Bad Medicine":

"Dr. Aaron has a gift for writing clearly and interestingly and simply about medical matters, so clearly that the layman can easily understand him. In his position as Medical Consultant to Consumers Union, it is Dr. Aaron's business to know much about the composition and the value or uselessness of the common proprietary and patent medicines now to be found in every drugstore. He is also accustomed to speaking out bravely and positively. . . .

"The book, then, is one that should be found alongside the medicine chest in every home. If it were placed there and read, it could in a year save the average medicine-addicted housewife many times its cost. It is sad to think how much money most poor people spend on drugs that are of no value to them. . . .

"In this book there is much good information about most of the common troubles that people try to cure by themselves. . . . The book is heartily to be recommended and should have a large sale."

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"Good Health and Bad Medicine" can be ordered either separately ($1.50 for CU members) or together with Dr. Aaron's first book, "Our Common Ailment — Constipation: Its Cause and Cure" (combination rate, $2.25).

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